

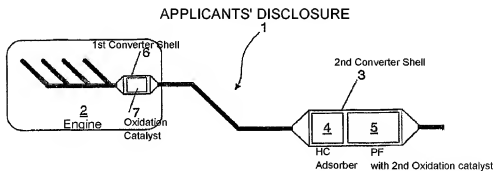
## **REMARKS**

By this amendment, Applicants have amended claim 1 to include that the particulate filter is separated from the hydrocarbon adsorber, as shown in Figure 1 and described at paragraphs 34-37 of the published application US 2007/0119152. Applicants have also amended claim 1 to provide antecedent basis for the particulate filter as recommended by the Examiner. These amendments do not add new matter. Applicants respectfully request entry of this amendment and allowance of the pending claims.

### **I. Claim Objections**

The Examiner objected to claim 1 for reciting “the particulate filter” as it should read “a particulate filter”. By this amendment, Applicants have amended the claims consistent with the Examiner’s suggestion. Therefore, this objection is now moot.

The Examiner also objected to claim 6, line 7 as it mentions “first oxidation” and, according to the Examiner, should read “second oxidation”. Applicants respectfully disagree and refer the Examiner to Applicants’ Figure 1 reproduced below where the particulate filter is coated with a second oxidation catalyst.



Accordingly, Applicants submit that the claims are clear to one of ordinary skill in the art on reading the specification and these objections are now moot.

### **II. Claim Rejections Under 35 U.S.C. § 103(a)**

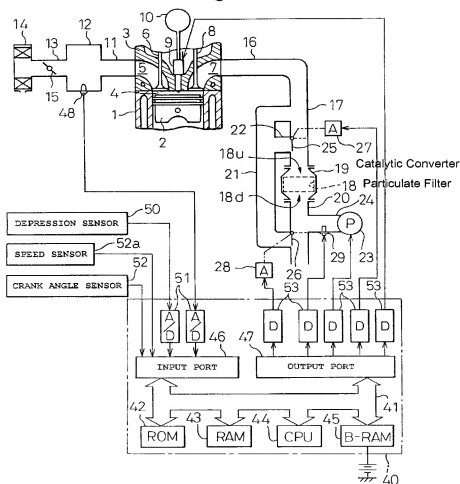
Claims 1-3 and 5-7 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over U.S. Patent No. 6,367,246 (Hirota) in view of U.S. Patent No. 6,044,644 (Hu). Applicants respectfully traverse this rejection.

Applicants have amended claim 1 to include that the particulate filter is separated from

the hydrocarbon adsorber, as shown Figure 1. Applicants respectfully submit that none of the prior art references make the current claims obvious.

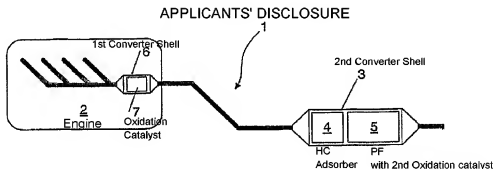
Hirota teaches that the HC adsorber is layered or disposed on the PF (shown in Hirota's Figure 2). The Examiner concedes this point in the Office Action. In contrast to Hirota, Applicants claims include that the particulate filter is separated from the hydrocarbon adsorber, which Hirota specifically teaches away from this design because he teaches that the HC adsorber is layered or disposed on the PF.

Further, Hirota discloses a particulate filter (18) arranged in the exhaust passage of an engine, where only the inner wall surface of the downstream end open cells of the particulate filter is covered with a NOx adsorbent, and the inner wall surface of the upstream end open cells is covered with a HC adsorbent. However, all Hirota disclosure is that his catalyst (19) is an underfloor catalyst as shown in Figure 1



Clearly Hirota teaches away from closely coupling the oxidation catalyst to the engine outlet, while the HC adsorber and particulate filter are part of the underfloor catalyst (far away from the engine), as currently claimed. Applicants' arrangement, among other things, allows the oxidation catalyst to be rapidly heated up to its light-off temperature, and the hydrocarbon adsorber being arranged far away from the engine in an area of low exhaust-gas temperatures eliminates premature desorption of the hydrocarbons.

More particularly, Applicants' first oxidation catalyst 7 is closely coupled to the engine 2 so that it warms up quickly after cold start. The particulate filter (PF) 5 as recited in claim 1 is arranged in the underfloor area of the motor vehicle and is in the same converter housing 3 as the hydrocarbon adsorber (4) as shown in Figure 1 below:



Hirota simply does not make this arrangement and the benefits therefrom obvious.

Like Hirota, Hu does not make the current claims obvious. Hu teaches that the close coupled catalyst contains substantially no oxygen storage component close to the engine. Hu says nothing about that the particulate filter is separated from the hydrocarbon adsorber, as currently claimed. Further, Hu does not appreciate the benefits of Applicants' arrangement of having the first oxidation catalyst closely coupled to the engine, which allows the oxidation catalyst to be rapidly heated up to its light-off temperature, and that the hydrocarbon adsorber being arranged far away from the engine in an area of low exhaust-gas temperatures eliminates premature desorption of the hydrocarbons. Moreover, Hu says nothing about having a second oxidation catalyst coated on the PF, as currently claimed.

Applicants respectfully submit that one of ordinary skill in the art would not combine the references in the way the Examiner does. Even if one of ordinary skill in the art was to combine the references one would still not obtain the present claims as the particulate filter would not be

separated from the hydrocarbon adsorber. Accordingly, Applicants respectfully submit that the claims cannot be considered obvious over any of the cited references alone or in combination and request that the rejection under 35 U.S.C. §103(a) be reconsidered and withdrawn.

### **III. Conclusion**

Reconsideration and allowance are respectfully solicited.

No fee is believed to be due with respect to the filing of this amendment other than the fee for the Request for Continued Examination. If any additional fees are due, or an overpayment has been made, please charge, or credit Deposit Account No. 11-0171 for such sum.

If the Examiner determines that any further action is necessary to place this application into better form, the Examiner is cordially invited to contact Applicant's attorney at the telephone number provided.

Respectfully submitted,

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